

REPORT NO. 78-3-8

FOREST INSECT AND DISEASE MANAGEMENT UNIT  
U.S. FOREST SERVICE  
DORAVILLE, GEORGIA

REPORT OF AERIAL DETECTION SURVEY

LAND OWNERSHIP OR SURVEY AREA: Clarke, Covington, Jasper,  
Jones, Newton, Scott, Smith  
and Wayne Counties

Bienville National Forest  
Bienville Ranger District  
Strong River Ranger District

DeSoto National Forest  
Portions of Chickasawhay  
Division

STATE: ~~Mississippi~~

AREA WITHIN SURVEY BOUNDARY: 3,266,200

AREA WITHIN NATIONAL FOREST BOUNDARIES: 540,820 acres

PERCENT COVERAGE: 25%

DATE SURVEYED: Feb. 6-10, 1978

AIRCRAFT: Cessna 182

CREW: C.W. Dull, R. F. Bassett

SURVEY METHODS AND OBJECTIVES: The purpose of this aerial survey was to determine the location of southern pine beetle (SPB) activity in central Mississippi. The survey area, or portions of the area surveyed, will be considered for use in the study "Determination of Annual Timber Mortality Caused by the Southern Pine Beetle." The study calls for an area containing both high and low levels of SPB caused tree mortality with a cross section of ownership classes including National Forests, forest industry and small forest landowners. The results of this aerial survey would indicate the feasibility of using this area in the study.

## RESULTS

The most concentrated area of SPB activity was located on the Bienville National Forest in Scott and Smith Counties (Fig. 2 and 3). SPB activity in Jasper County was also at a high level (Fig. 1). Clarke, Wayne and Jones Counties are experiencing relatively moderate levels of SPB activity while Covington and Newton Counties contained low levels of SPB activity. The DeSoto National Forest, Chickasawhay Division contained few red and fading pines.

In general, most spots (65%) contained less than ten trees (Refer to Table 1).

## SUMMARY

At the levels of SPB activity indicated by this survey, the eight county area would provide an ideal area to conduct the evaluation.

Routine surveillance while en route to the survey area indicated that high levels of SPB activity may also exist in Rankin County which is west of the area surveyed. If areas with greater SPB activity are desired, Rankin, Copiah, and Simpson Counties may provide likely candidate areas for the study.

For any additional information, Contact:

Forest Insect & Disease Management Unit, S&PF  
USFS - Southeastern Area

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3620 Interstate 85, N.E.		Pineville, La. 71360
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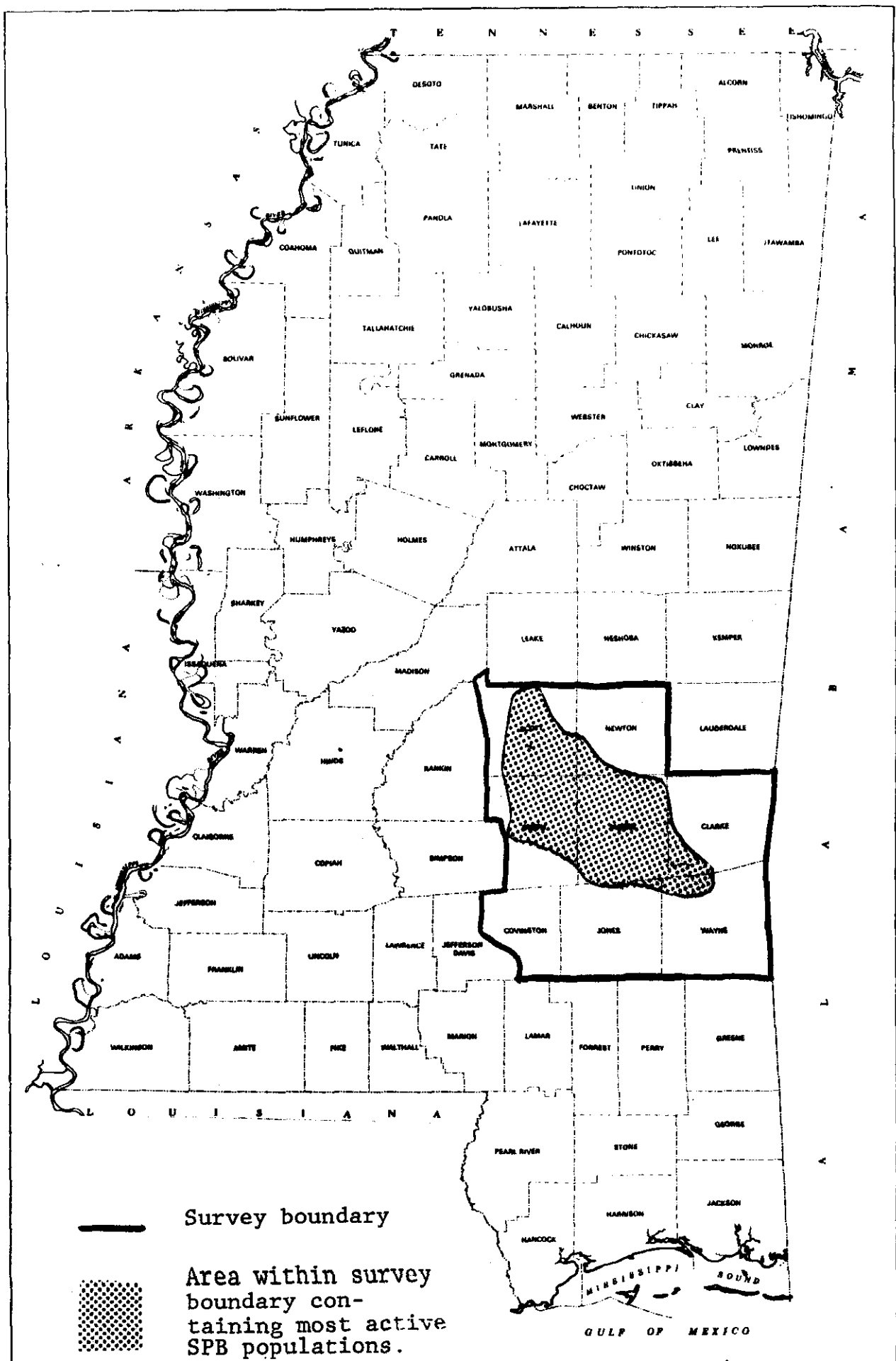


Figure 1. Eight county aerial survey for SPB detection, 2/6-10/78

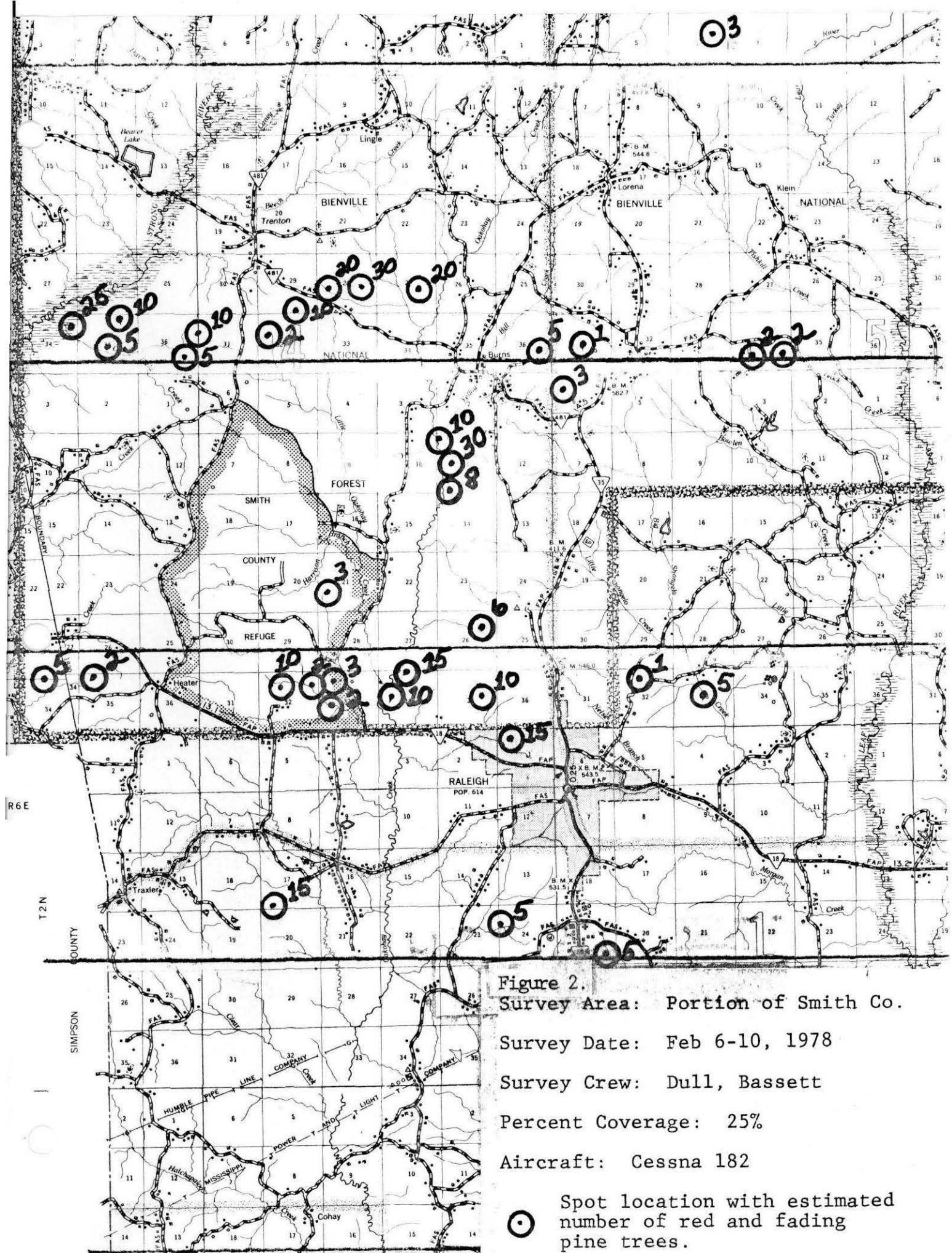


Figure 3.

Survey Area: Portion of Scott Co.

Survey Date: Feb. 6-10, 1973

Survey Crew: Dull, Bassett

Percent Coverage: 25%

Aircraft: Cessna 182

○ Spot location with estimated number of red and fading pine trees.

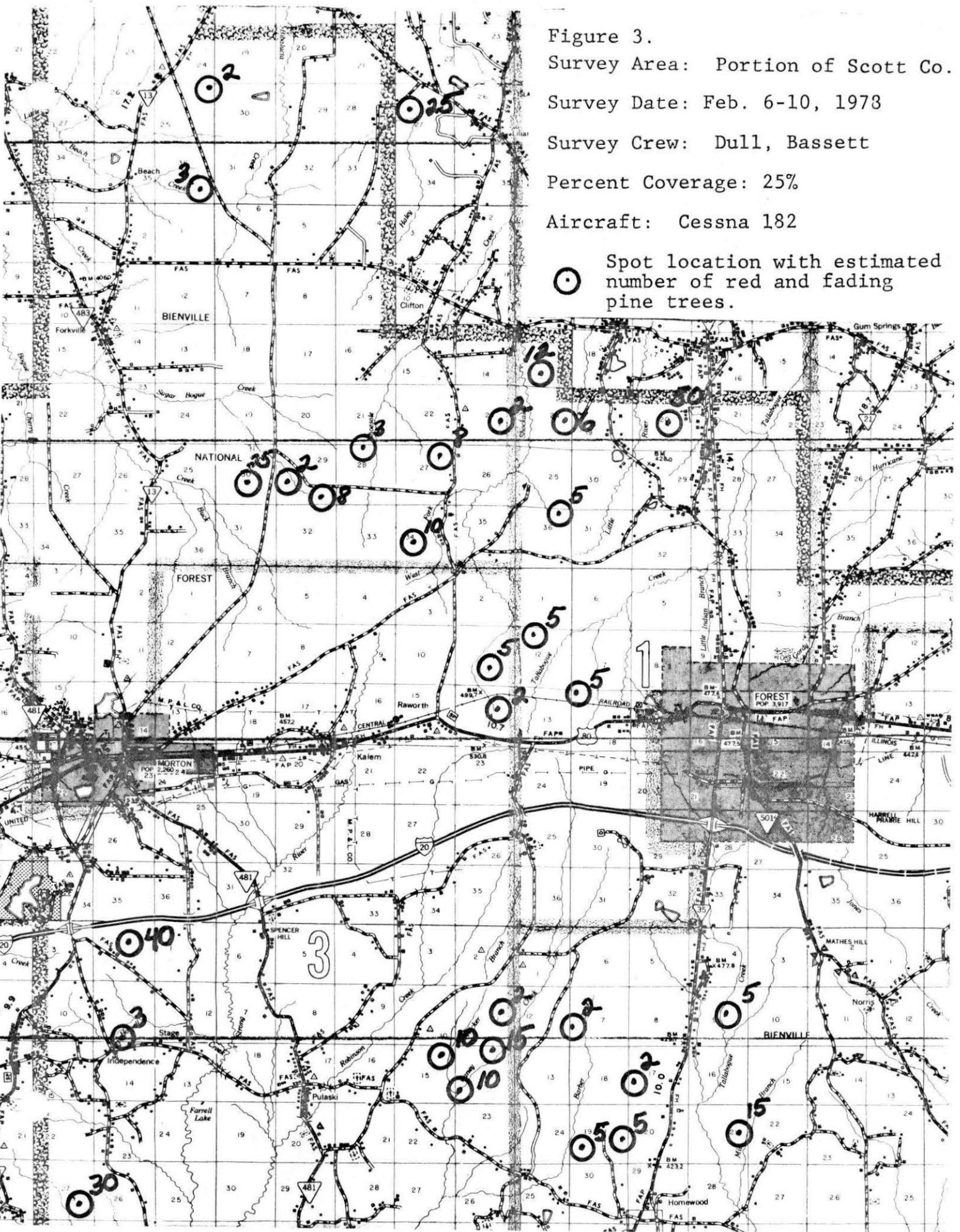


Table 1. Results of Aerial Detection Survey on Eight Counties in Mississippi; February 6-10, 1978.

	County								Total
	Scott	Newton	Smith	Jasper	Clarke	Covington	Jones	Wayne	
No. Spots <sup>1/</sup>	40	14	54	27	33	3	14	19	204
Total No. Red and Fading Trees	386	86	412	446	266	6	61	97	1,706
Avg. Spot Size (trees)	10	6	8	17	8	2	4	5	9
Range Spot Size (trees)	2-50	1-30	1-30	1-200	1-50	2	1-30	1-30	1-200
Expanded to 100% coverage <sup>2/</sup>									
No. Spots	160	56	216	108	132	12	56	76	816
No. Trees	1,544	344	1,648	1,784	1,064	24	244	388	7,040
No. Acres	393,600	371,200	410,900	437,100	446,100	226,200	451,800	529,300	3,266,200
No Acres w/in National Forest boundary	209,920	11,540	130,641	30,720	-0-	-0-	42,800	115,200	540,821
Percent of spots w/in National Forest	95%	0%	72%	26%	---	---	7%	11%	43%
Percent of Red and Fading trees w/in National Forest	92%	0%	83%	25%	---	---	2%	4%	46%
Percent of Survey area w/in National Forest Boundary	53%	3%	32%	7%	0%	0%	9%	22%	17%

<sup>1/</sup> Areas of red and fading pine trees suspected to contain SPB populations detected with 25% survey coverage.

<sup>2/</sup> No correction for observer error.